

**AMENDMENTS TO THE CLAIMS:**

Kindly cancel claim 7 without prejudice. Please amend claims 2 and 6, add new claims 8-11 as follows.

The present listing of claims will replace all prior versions, and listings, of claims in the present application.

**Listing of Claims:**

Claim 1           (Cancelled)

Claim 2 (Currently Amended): A method for manufacturing a supercharger rotor by casting a profile portion of a supercharger rotor to surround a shaft penetrating the profile portion, comprising the steps of:

(A) first cutting a left and right helical cross portion on a surface of the shaft that connects to the profile portion, wherein the left and right helical cross portion includes a right handed screw helical groove and a left handed screw helical groove, and these grooves cross each other; and

(B) casting the profile portion around the shaft in die-casting, wherein casting the profile portion includes:

- i. surrounding the cross portion of the shaft with a metal mold so the cross portion is disposed inside a cavity of the mold; and
- ii. attaching a helical core inside the cavity of the mold so the profile portion cast includes a hollow portion formed in the profile portion.

Claims 3-5 are cancelled.

Claim 6 (Currently amended): A method according to claim 2~~4~~, wherein in the first cutting, a plurality of cutting tools are used in parallel in lathe work, and multiple thread screws are simultaneously cut.

Claim 7 (Cancelled)

Claim 8 (NEW): A method according to claim 2, wherein the hollow portion formed in the profile portion is located in a periphery of the profile portion.

Claim 9 (NEW): A method according to claim 2, wherein casting the profile portion further comprises the step of:

iii. pressurizing hot metal, and injecting and solidifying the hot metal in the cavity of the mold.

Claim 10 (NEW): A method according to claim 9, wherein the mold comprises a plurality of profile portion divided metal molds and a pair of end metal molds surrounding the profile portion so as to allow division of the mold, wherein one of the end metal molds is attached to the helical core; and the method further comprises the step of:

pulling out the end metal mold attached to the helical core by rotating the end metal mold attached to the helical core along a helical line.

Claim 11 (NEW): A method for manufacturing a supercharger rotor by casting a profile portion of a supercharger rotor to surround a shaft penetrating the profile portion, comprising the steps of:

(A) first knurling a left and right helical cross portion on a surface of the shaft that connects to the profile portion, wherein the left and right helical cross portion includes a right handed screw helical groove and a left handed screw helical groove, and these grooves cross each other; and

(B) casting the profile portion around the shaft in die-casting, wherein casting the profile portion includes:

- i. surrounding the cross portion of the shaft with a metal mold so the cross portion is disposed inside a cavity of the mold; and
- ii. attaching a helical core inside the cavity of the mold so the profile portion cast includes a hollow portion formed in the profile portion.